



## Complete Summary

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### TITLE

Heart failure: percent of patients with documentation in the hospital record that LVS function was evaluated before arrival, during hospitalization, or is planned for after discharge.

### SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

## Measure Domain

### PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### SECONDARY MEASURE DOMAIN

Does not apply to this measure

## Brief Abstract

### DESCRIPTION

This measure is used to assess the percent of heart failure patients with documentation in the hospital record that left ventricular systolic (LVS) function was evaluated before arrival, during hospitalization, or is planned for after discharge.

### RATIONALE

Appropriate selection of medications to reduce morbidity and mortality in heart failure requires the identification of patients with impaired left ventricular systolic function. National guidelines advocate the evaluation of left ventricular systolic function as the single most important diagnostic test in the management of all patients with heart failure. Despite these recommendations, left ventricular

systolic function is not evaluated in a substantial proportion of eligible older patients hospitalized with heart failure.

#### **PRIMARY CLINICAL COMPONENT**

Heart failure; left ventricular systolic (LVS); evaluation

#### **DENOMINATOR DESCRIPTION**

Heart failure patients (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

#### **NUMERATOR DESCRIPTION**

Heart failure patients with documentation in the hospital record that left ventricular systolic (LVS) function was evaluated before arrival, during hospitalization, or is planned for after discharge

### **Evidence Supporting the Measure**

#### **EVIDENCE SUPPORTING THE CRITERION OF QUALITY**

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

#### **NATIONAL GUIDELINE CLEARINGHOUSE LINK**

- [ACC/AHA 2005 guideline update for the diagnosis and management of chronic heart failure in the adult. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines \(Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure\).](#)

### **Evidence Supporting Need for the Measure**

#### **NEED FOR THE MEASURE**

Use of this measure to improve performance

#### **EVIDENCE SUPPORTING NEED FOR THE MEASURE**

Bonow RO, Bennett S, Casey DE Jr, Ganiats TG, Hlatky MA, Konstam MA, Lambrew CT, Normand SL, Pina IL, Radford MJ, Smith AL, Stevenson LW, Bonow RO, Bennett SJ, Burke G, Eagle KA, Krumholz HM, Lambrew CT, Linderbaum J, Masoudi FA, Normand SL, Ritchie JL, Rumsfeld JS, Spertus JA, American College of Cardiology, American Heart Association Task Force on Performance Measures (Writing Committee), Heart Failure Society of America. ACC/AHA clinical

performance measures for adults with chronic heart failure. J Am Coll Cardiol 2005 Sep 20;46(6):1144-78. [PubMed](#)

Heart Failure Society of America. HFSA 2006 comprehensive heart failure practice guideline. J Card Fail 2006 Feb 1;12(1):e1-2. [PubMed](#)

Hunt SA, American College of Cardiology, American Heart Association Task Force on Practice Guidelines (Writing Committee. ACC/AHA 2005 guideline update for the diagnosis and management of chronic heart failure in the adult. J Am Coll Cardiol 2005 Sep 20;46(6):e1-82. [174 references] [PubMed](#)

Jencks SF, Cuerdon T, Burwen DR, Fleming B, Houck PM, Kussmaul AE, Nilasena DS, Ordin DL, Arday DR. Quality of medical care delivered to Medicare beneficiaries: A profile at state and national levels. JAMA 2000 Oct 4;284(13):1670-6. [PubMed](#)

## State of Use of the Measure

### STATE OF USE

Current routine use

### CURRENT USE

Accreditation  
Collaborative inter-organizational quality improvement  
External oversight/Medicaid  
External oversight/Medicare  
Internal quality improvement  
National reporting  
Pay-for-performance

## Application of Measure in its Current Use

### CARE SETTING

Hospitals

### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

### TARGET POPULATION AGE

Age greater than or equal to 18 years

## **TARGET POPULATION GENDER**

Either male or female

## **STRATIFICATION BY VULNERABLE POPULATIONS**

Unspecified

### **Characteristics of the Primary Clinical Component**

## **INCIDENCE/PREVALENCE**

- Around 5 million people in the United States have heart failure. About 550,000 new cases are diagnosed each year. More than 287,000 people in the United States die each year with heart failure.
- Hospitalizations for heart failure have increased substantially. They rose from 402,000 in 1979 to 1,101,000 in 2004. (National Hospital Discharge Survey)
- Heart failure is the most common reason for hospitalization among people on Medicare. Hospitalizations for heart failure are higher in black than white people on Medicare.
- Persons living with heart failure can improve their quality of life and outcomes by the following:
  - Taking prescribed medications as recommended each day.
  - Reducing their dietary intake of salt (sodium).
  - Getting daily physical activity as recommended by their health provider.
  - Being aware of and telling their health provider about their heart failure symptoms.
  - Taking and keeping track of their weight every day to check fluid buildup in the body and telling their health provider of changes in weight over a short time.
  - Learning ways to deal with depression and stress and get treatment if needed.
  - Making living wills to state their wishes for care to health care providers and their family members.

## **EVIDENCE FOR INCIDENCE/PREVALENCE**

American Heart Association. Heart disease and stroke facts, 2006 update. Dallas (TX): AHA; 2006.

Centers for Disease Control and Prevention. The burden of heart disease and stroke in the United States: state and national data, 1999. Atlanta (GA): Centers for Disease Control and Prevention; 2004.

Elixhauser A, Yu K, Steiner C, Bierman AS. Table 4. Most common reasons for hospitalizations by age groups. In: Hospitalization in the United States, 1997. HCUP fact book (AHRQ Publication No. 00-0031). Rockville (MD): Agency for Healthcare Research and Quality; 2000.

Grady KL, Dracup K, Kennedy G, Moser DK, Piano M, Stevenson LW, Young JB. Team management of patients with heart failure: A statement for healthcare professionals from The Cardiovascular Nursing Council of the American Heart Association. *Circulation* 2000 Nov 7;102(19):2443-56. [PubMed](#)

National Heart, Lung, and Blood Institute. Diseases and conditions index, heart failure. [internet]. Bethesda (MD): National Heart, Lung, and Blood Institute; 2007 Dec [accessed 2008 Nov 17].

## **ASSOCIATION WITH VULNERABLE POPULATIONS**

See the "Incidence/Prevalence" field.

## **BURDEN OF ILLNESS**

See the "Incidence/Prevalence" field.

## **UTILIZATION**

See the "Incidence/Prevalence" field.

## **COSTS**

The estimated direct cost for heart failure in 2006 is \$29.6 billion in the United States.

## **EVIDENCE FOR COSTS**

American Heart Association. Heart disease and stroke facts, 2006 update. Dallas (TX): AHA; 2006.

## **Institute of Medicine National Healthcare Quality Report Categories**

### **IOM CARE NEED**

Living with Illness

### **IOM DOMAIN**

Effectiveness

## **Data Collection for the Measure**

### **CASE FINDING**

Users of care only

### **DESCRIPTION OF CASE FINDING**

Discharges, 18 years of age and older, with a principal diagnosis of heart failure

## **DENOMINATOR SAMPLING FRAME**

Patients associated with provider

## **DENOMINATOR INCLUSIONS/EXCLUSIONS**

### **Inclusions**

Discharges, 18 years of age and older, with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Diagnosis Code for heart failure as defined in Appendix A, Table 2.1, of the original measure documentation

### **Exclusions**

- Patients who had a left ventricular assistive device (LVAD) or heart transplant procedure during hospital stay (ICD-9-CM procedure code for LVAD and heart transplant as defined in Appendix A, Table 2.2)
- Patients less than 18 years of age
- Patients who have a Length of Stay greater than 120 days
- Patients enrolled in clinical trials
- Patients discharged/transferred to another hospital for inpatient care
- Patients who left against medical advice or discontinued care
- Patients who expired
- Patients discharged/transferred to a federal health care facility
- Patients discharged/transferred to hospice
- Patients with *Comfort Measures Only* documented
- Patients with reasons documented by a physician/advanced practice nurse/physician assistant for no left ventricular systolic (LVS) function evaluation

## **RELATIONSHIP OF DENOMINATOR TO NUMERATOR**

All cases in the denominator are equally eligible to appear in the numerator

## **DENOMINATOR (INDEX) EVENT**

Clinical Condition  
Institutionalization

## **DENOMINATOR TIME WINDOW**

Time window brackets index event

## **NUMERATOR INCLUSIONS/EXCLUSIONS**

### **Inclusions**

Heart failure patients with documentation in the hospital record that left ventricular systolic (LVS) function was evaluated before arrival, during hospitalization, or is planned for after discharge

**Exclusions**

None

**MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS**

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

**NUMERATOR TIME WINDOW**

Episode of care

**DATA SOURCE**

Administrative data  
Medical record

**LEVEL OF DETERMINATION OF QUALITY**

Individual Case

**PRE-EXISTING INSTRUMENT USED**

Unspecified

**Computation of the Measure****SCORING**

Rate

**INTERPRETATION OF SCORE**

Better quality is associated with a higher score

**ALLOWANCE FOR PATIENT FACTORS**

Unspecified

**STANDARD OF COMPARISON**

External comparison at a point in time  
External comparison of time trends  
Internal time comparison

## Evaluation of Measure Properties

### EXTENT OF MEASURE TESTING

The core measure pilot project was a collaboration among The Joint Commission, five state hospitals associations, five measurement systems, and 83 hospitals from across nine states. Participating hospitals collected and reported data for heart failure (HF) measures from December 2000 to December 2001.

Core measure reliability visits were completed the summer of 2001 at a random sample of 16 participating hospitals across 6 states.

Preliminary data from the pilot test demonstrate an opportunity for improvement with a mean rate of 79%.

### EVIDENCE FOR RELIABILITY/VALIDITY TESTING

The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p.

## Identifying Information

### ORIGINAL TITLE

HF-2: Evaluation of LVS function.

### MEASURE COLLECTION

[National Hospital Inpatient Quality Measures](#)

### MEASURE SET NAME

[Heart Failure](#)

### SUBMITTER

Centers for Medicare & Medicaid Services  
Joint Commission, The

### DEVELOPER

Centers for Medicare & Medicaid Services/The Joint Commission

### FUNDING SOURCE(S)

All external funding for measure development has been received and used in full compliance with The Joint Commission's Corporate Sponsorship policies, which are available upon written request to The Joint Commission.



## **COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE**

The composition of the group that developed the measure is available at:  
<http://www.jointcommission.org/NR/rdonlyres/40EDE16E-0ECC-45E0-8CEC-71C97FF515D0/0/CardiovascularConditionsClinicalAdvisoryPanel.pdf>.

## **FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST**

Expert panel members have made full disclosure of relevant financial and conflict of interest information in accordance with the Conflict of Interest policies, copies of which are available upon written request to The Joint Commission and the Centers for Medicare & Medicaid Services.

## **ENDORSER**

National Quality Forum

## **INCLUDED IN**

Hospital Compare  
Hospital Quality Alliance

## **ADAPTATION**

Measure was not adapted from another source.

## **RELEASE DATE**

2000 Aug

## **REVISION DATE**

2009 Oct

## **MEASURE STATUS**

This is the current release of the measure.

This measure updates a previous version: Specifications manual for national hospital quality measures, version 2.5b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2008 Oct. various p.

## **SOURCE(S)**

Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

## **MEASURE AVAILABILITY**

The individual measure, "HF-2: Evaluation of LVS Function," is published in the "Specifications Manual for National Hospital Inpatient Quality Measures." This document is available in Portable Document Format (PDF) from [The Joint Commission Web site](#). Information is also available from the [Centers for Medicare & Medicaid Services \(CMS\) Web site](#). Check The Joint Commission Web site and CMS Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

## **COMPANION DOCUMENTS**

The following are available:

- A software application designed for the collection and analysis of quality improvement data, the CMS Abstraction and Reporting Tool (CART), is available from the [CMS CART Web site](#). Supporting documentation is also available. For more information, e-mail CMS PROINQUIRIES at [proinquiries@cms.hhs.gov](mailto:proinquiries@cms.hhs.gov).
- The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p. This document is available from [The Joint Commission Web site](#).
- The Joint Commission. Attributes of core performance measures and associated evaluation criteria. Oakbrook Terrace (IL): The Joint Commission; 5 p. This document is available from [The Joint Commission Web site](#).
- Hospital compare: a quality tool provided by Medicare. [internet]. Washington (DC): U.S. Department of Health and Human Services; 2009 Oct 5; [accessed 2009 Oct 12]. This is available from the [Medicare Web site](#). See the related [QualityTools](#) summary.

## **NQMC STATUS**

This NQMC summary was completed by ECRI on February 7, 2003, October 11, 2005, April 6, 2007, and October 26, 2007. The Joint Commission informed NQMC that this measure was updated on August 13, 2008 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on November 11, 2008. The information was verified by the Centers for Medicare & Medicaid Services on January 22, 2009. The Joint Commission informed NQMC that this measure was updated again on May 19, 2009 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on October 9, 2009. The information was verified by the Centers for Medicare & Medicaid Services on February 18, 2010.

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